CHASE COPPER RADIATORS

Convectors for:

Steam or Hot Water

Heating Systems

For Further Information, Address
Chase Brass & Copper Co. Inc.
Sales Promotion Division
Chase Tower, 10 East 40th Street
New York City

Chase concealed copper radiators greatly improve the appearance of a room. Recessed under windows and in walls they save floor space. Chase radiators distribute heat quickly and evenly to every section of the room. They are low in first cost and economical to operate.

A.I.A. File No. 30-C-4

7 EXCELLING POINTS of Chase Copper Radiators

1. The use of copper and brass materials with high heat conductivity and long life.
2. Adequate and permanent copper to copper bond between fin and tube and between tube and header.
3. Sufficient steam or water way to meet all conditions of service.
4. High heat output with respect to space required and to weight.
5. The cost of installation is but little more than old-fashioned column radiators.
6. The saving in operating cost year after year soon pays for the slight difference in first cost.
7. Manufactured and sold by a large and well established company.

GENERAL DESCRIPTION

Concealed radiators or, more properly, convectors, are the result of a demand from architects for a space heating device which would not take up valuable floor space and which would permit of proper architectural treatment. Other advantages are reduced fuel consumption, rapid and even heat distribution, increased cleanliness, and less soiling of walls and draperies, and low operating costs.

A convector in its simplest form consists of a steam or water way to which fins are attached throughout most of its length and in a generally vertical position. Heat is transferred through the wall of the steam or water way to the fins and thus to the air between the fins. This air upon being heated becomes lighter and is displaced from below by heavier and colder air.

A convector requires as an accessory, a flue or enclosure which prevents movement of the heated air in any direction except upward to the outlet grille, through which it is discharged into the space to be heated.

The cold air is introduced to the flue through an opening in the front of the enclosure and slightly below the heating element. When the convector is in operation there is a circulation of air throughout the area to be heated. The air discharged through the outlet grille gives up its heat to compensate for the losses through windows, doors and outside walls. As air cools it becomes heavier, falls to the floor and is again passed through the convector.

Thus all the air in the room passes through the convector several times every hour and sets up a thorough circulation of the air in the room.

Chase Copper Convectors provide equal, comfortable warmth in every part of the room from directly in front of the radiator to the farthest corner. This temperature equalization means lower operating cost.

The design of a convector and its enclosing flue requires a thorough understanding of both thermo- and aerodynamics, supported also by sound and adequate manufacturing experience. All of these conditions are met by the Chase products. They are made by a company with unsurpassed manufacturing experience and facilities, under the supervision of a staff of engineers with real standing in their profession.

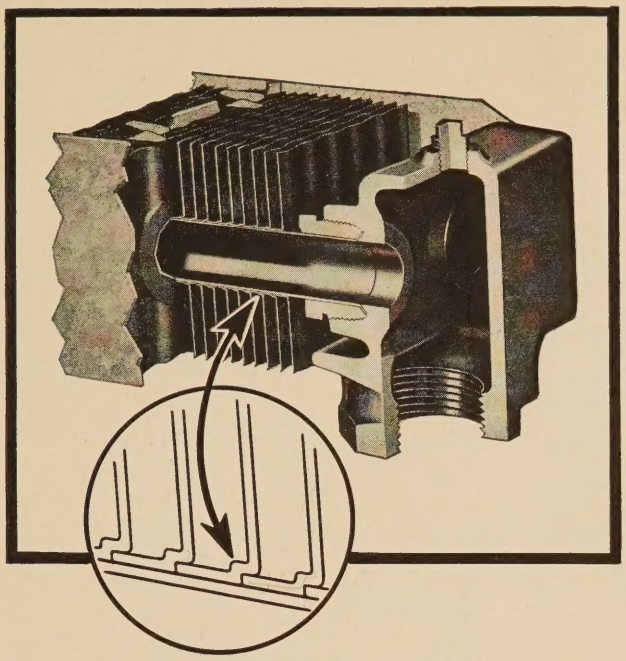
ENCLOSURE DESIGN

An enclosure must be designed for mechanical strength and simple installation. The ratio of the depth of flue to inlet and outlet dimensions, the free area in the grille, even the type and proportions of the openings in the grille affect the performance of convectors.

The enclosure must be unobtrusive—the chief appeal of convector heating lies in the fact that it can be concealed, and "concealed" means to hide.

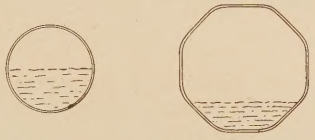
A building can hardly be built around a convector enclosure; therefore, the enclosure must be designed with due consideration for building construction practice.

Chase enclosures are made of 16 gage furniture steel. They are built with care and precision.



CONSTRUCTION OF CHASE CONVECTORS

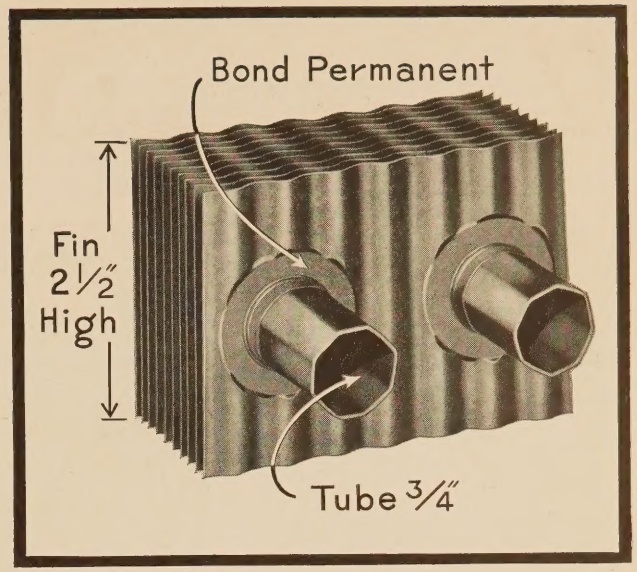
Copper, the best commercially practicable material from a heat transfer standpoint is used for both tube and fins. The tubes are firmly secured to the headers by compression nuts, a universally accepted method of making a permanent bond not affected by strain or stess. The fins where they contact the tubes, have a flange or lip, which acts as a definite spacer for the fins. Part of the lips are lapped over and under each other, somewhat like shingles on a roof. These laps prevent slipping and insure a tighter bond on the tube. Fins are corrugated to provide greater area for a given depth of unit and to increase strength and rigidity. An intimate and permanent copper to copper bond between fins and tubes is accomplished by a patented process of forcing the tubes and the overlapped fin flanges from round to octagon shape. *No solder is used.*



½" round tube *Chase ¾" octagon tube*

ADEQUATE TUBE SIZE

The water or steam way of a convector must be of adequate size to permit flow of a sufficient quantity of the heating medium to supply the heat required. On one pipe steam installations there must also be provided sufficient cross sectional area to permit the condensed water to flow quietly back through the tube against the oncoming steam. The illustrations above show a ½ and a ¾ inch tube each containing the same amount of water. Note that there is 3 times as much space for steam or vapor in the ¾ inch octagon tube used in Chase convectors.



DESIGN OF CHASE CONVECTOR

The capacity of a convector of given overall length and depth with a certain enclosure height is dependent upon a number of factors:

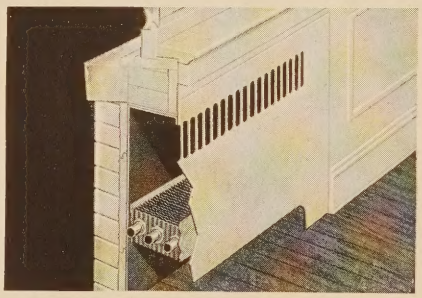
(a) Material used for fins and tubes.

(b) Ratio of prime to extended surface.

(c) Ratio of fin area to fin spacing.

Convector capacity involves both velocity of air and temperature rise through the convector. Of two convectors of equal BTU output, one would be eminently more satisfactory if it provided a large volume of air at a reasonably low temperature against one with low velocity and high temperature.

All of these factors have been given careful consideration in the design of the Chase convector. As a result it provides maximum capacity and comfort from the available space in which it may be installed.



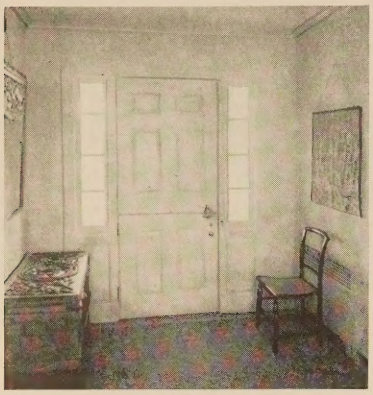
CONCEALED CHASE CONVECTOR

The above cross section illustrates one type of installation and shows clearly how the convector and enclosure are built into the wall so that there is no loss of floor space. The enclosure front harmonizes with the surrounding wall. The usual types of cabinets and diagrams showing installation details are shown on the pages that follow.

Several types of grilles and front combinations are available. To take advantage of standardization and consequent lower prices we suggest you select from those shown on the following pages.

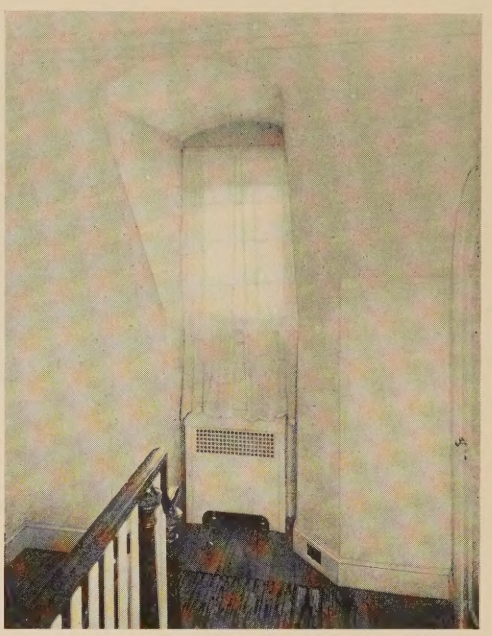
A FEW CHASE INSTALLATIONS

Chase Concealed Convectors are modern, more efficient, heating radiators. Recessed in walls, under windows and in niches they save floor space and are out of the way. This is important in the interior decoration of homes as illustrated by the photographs on these pages. And in commercial buildings and schools where every foot of floor space is valuable. Chase Convectors give clean heat and do not soil window curtains, draperies or painted walls.

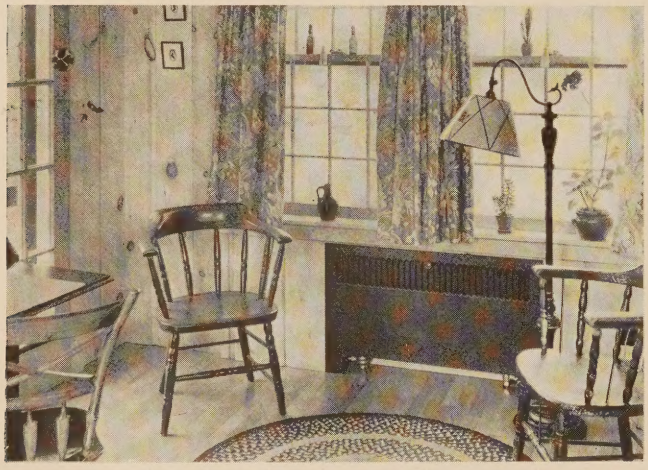


If it wasn't for the heat you would hardly know there was a Chase Radiator in this attractive hallway.

In this bedroom it was a help to interior decorating to have the Chase Convectors recessed under the windows.

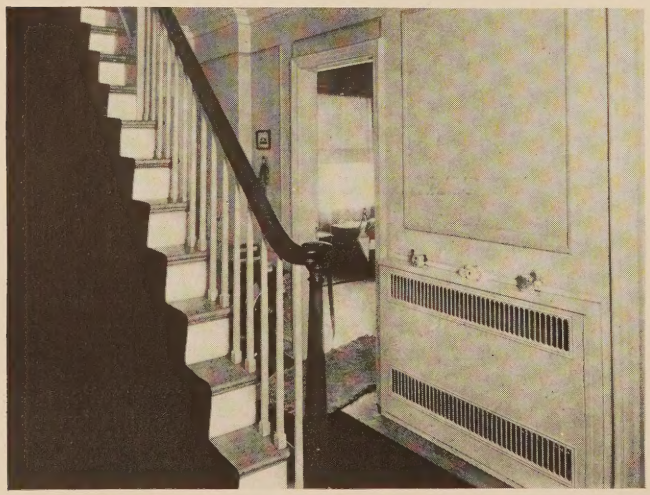


A free-standing Chase Convector furnishes this niche at the top of the stairs.

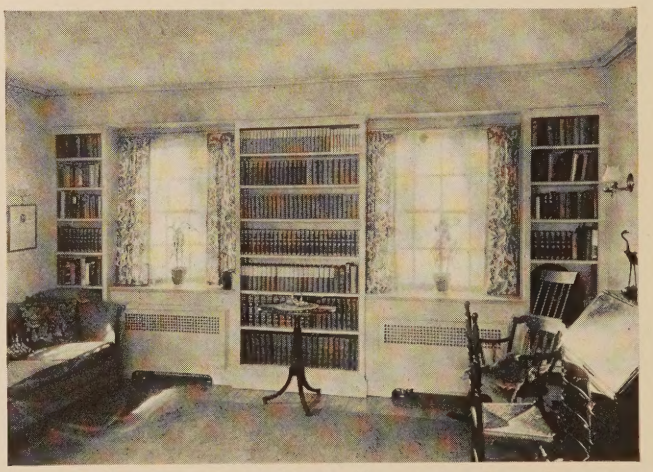


Chase Convectors take up no room when placed under the windows of sun parlors where they are out of the way in the summer time.

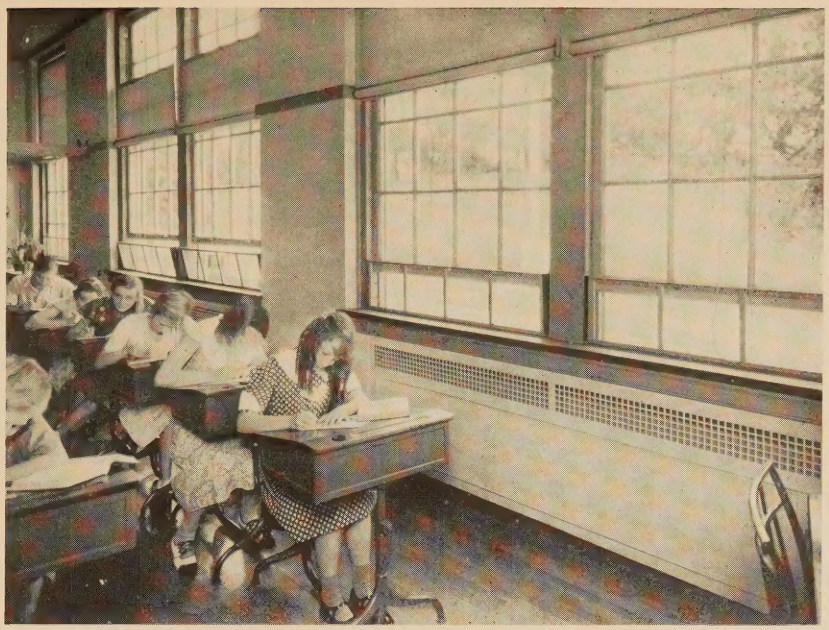
The beauty of this bedroom is emphasized by the fully-recessed Chase Convector.



This installation of a partially-recessed Chase Convector affords a small shelf for ash trays and nick-nacks.

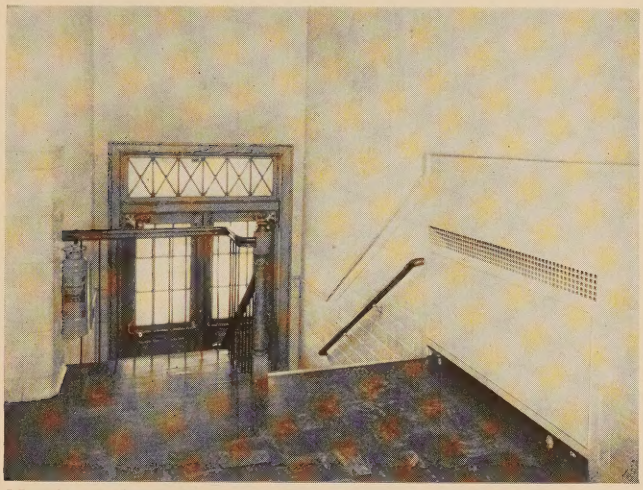


Space and beauty were added to the library when Chase Convectors were installed beneath the windows.

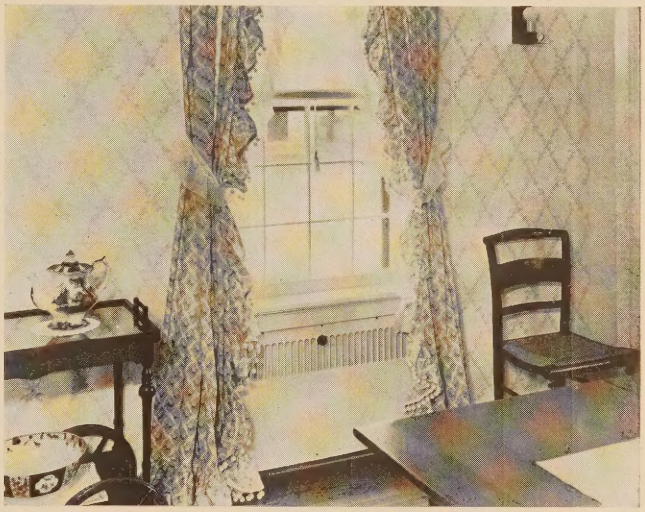


The air which penetrates the row of large windows in this school-room on wintry days is rapidly heated by Chase Convectors recessed in the wall, out of the aisle.

Chase Convectors installed conveniently in the corner of the dining-room.

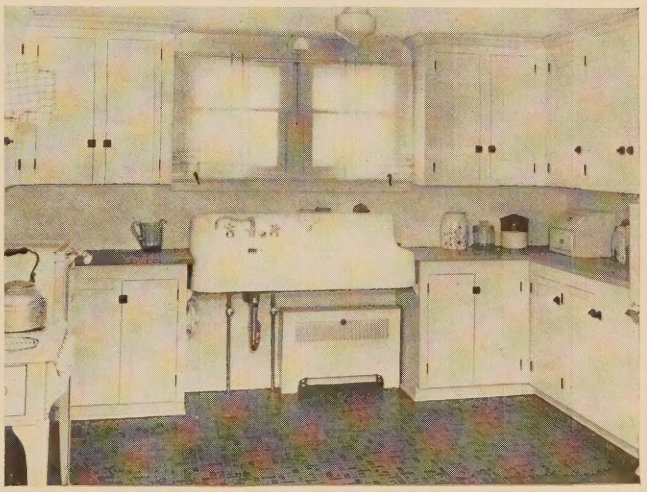


No obstruction at head of the stairs or exposed radiator to burn children in the hallway of this public school.



The Chase Convector in this dining-room prevents the curtains and draperies from becoming soiled by usual radiator dust.

The interior decorating of this living-room has been greatly improved by the installation of a Chase Convector.



A free-standing Chase Convector conveniently placed beneath the sink of this modern kitchen and painted to match the cabinets.

STEAM AND HOT WATER RATINGS

Below are Convector Manufacturers Certified Ratings.
These ratings are conservative and are guaranteed.

SQUARE FOOT STEAM RATINGS

Steam 215°—Room 70°—1 Sq. Ft.—240 B. t. u. per Hour

Radiator Number	"L" Radiator Length	Enclosure Height 20″	22″	24″	26″	30″	35″	40″	50″
2 Tube—3 9/16″ Wide									
215	15	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5
217½	17½	9.5	10.0	10.5	11.0	11.5	12.5	13.0	13.5
220	20	11.0	12.0	12.5	13.0	13.5	14.5	15 0	15.5
222½	22½	13.0	13.5	14.5	15.0	15.5	16.5	17.0	18.0
225	25	14.5	15.5	16.0	17.0	17.5	18.5	19.0	20.0
230	30	17.5	18.5	19.5	20.5	21.5	22.5	23.0	24.5
235	35	21.0	22.0	23.0	24.5	25.5	27.0	27.5	28.5
240	40	24.0	25.5	27.5	28.0	29.5	31.0	31.5	33.0
245	45	27.5	29.0	30.5	32.0	33.5	35.0	36.0	37.5
250	50	30.5	32.0	34.0	35.5	37.5	39.5	40.0	41.5
255	55	33.5	35.5	37.0	39.0	41.0	43.5	44.5	46.0
260	60	37.0	39.0	41.0	43.0	45.0	47.5	48.5	50.5
265	65	40.0	42.0	44.0	46.5	48.5	52.0	53.0	55.0
3 Tube—5 9/16″ Wide									
315	15	11.5	12.0	13.0	13.5	14.0	15.0	15.5	16.0
317½	17½	13.5	14.5	15.5	16.5	17.0	18.0	18.5	19.0
320	20	16.0	17.0	18.0	19.0	20.5	21.0	21.5	22.5
322½	22½	18.0	19.0	20.0	21.5	23.0	24 5	25.0	26.0
325	25	20.5	22.0	23.0	24.5	26.0	27.5	28.5	29.0
330	30	25.0	26.0	27.5	30.0	31.5	33.5	35.0	36.0
335	35	29.5	31.5	33.0	35.0	37.5	40.0	41.0	42.5
340	40	34.0	36.0	38.0	40.5	43.5	46.0	47.0	49.0
345	45	38.5	40.0	43.5	46.0	49.0	52.5	53.5	55.5
350	50	43.0	45.5	48.5	51.5	54.5	58.5	60.0	62.5
355	55	47.5	51.0	54.0	57.0	61.0	65.0	66.5	69.0
360	60	52.0	54.0	58.0	62.5	66.0	71.0	72.5	75.5
365	65	56.5	60.5	64.0	67.5	72.0	77.5	79.0	82.5
4 Tube—7 9/16″ Wide									
415	15	14.5	15.5	16.5	17.5	18.0	19.0	19.5	20.0
417½	17½	17.5	19.0	20.0	21.0	21.5	23.0	23.5	24.5
420	20	20.5	22.0	23.0	24.5	26.0	27.0	27.5	28.5
422½	22½	23.5	25.0	26.5	28.0	29.5	31.0	31.5	32.5
425	25	26.5	27.0	30.0	31.5	33.0	35.0	36.0	37.0
430	30	32.0	34.0	36.5	38.5	40.5	42.5	43.5	45.5
435	35	38.0	40.5	43.0	45.5	48.0	50.5	51.5	54.0
440	40	44.0	47.0	50.0	52.5	55.0	58.5	60.0	62.5
445	45	50.0	53.0	56.0	59.0	62.0	66.0	68.0	71.5
450	50	56.0	59.5	63.0	66.5	69.5	74.0	76.0	80.0
455	55	62.0	66.5	69.5	73.5	77.0	82.0	84.0	88.5
460	60	67.5	71.5	75.5	80.5	84.5	90.0	92.5	97.0
465	65	73.5	78.0	82.5	87.5	93.0	97.5	100.0	105.5
5 Tube—9⅛″ Wide									
515	15	16.5	17.5	18.0	19.0	20.0	21.5	22.0	23.0
517½	17½	20.0	21.0	22.0	23.0	24.0	25.5	26.0	27.5
520	20	23.0	24.0	25.5	27.0	28.5	30.0	31.0	32.5
522½	22½	26.5	28.0	29.5	31.0	33.0	35.0	36.0	37.5
525	25	30.0	31.5	33.5	35.0	37.0	39.0	40.5	42.5
530	30	36.5	38.5	41.0	43.0	45.5	48.0	49.5	52.0
535	35	43.5	45.5	48.0	51.0	54.0	57.5	59.0	61.5
540	40	50.0	53.0	56.0	59.0	62.0	66.0	68.0	71.5
545	45	57.0	60.5	64.0	67.0	70.5	75.0	77.0	81.0
550	50	63.5	67.0	71.0	75.0	79.0	84.0	86.5	91.0
555	55	70.5	74.5	78.5	83.0	87.5	92.5	95.0	100.5
560	60	77.0	81.5	86.0	91.0	96.0	101.5	104.5	110.0
565	65	84.0	89.0	95.0	99.0	104.0	110.5	113.5	120.0
6 Tube—11⅛″ Wide									
615	15	18.5	19.5	20.5	21.5	22.5	24.0	24.5	25.0
617½	17½	22.5	24.0	25.0	26.0	27.5	29.0	30.0	31.0
620	20	26.5	28.0	29.0	30.5	32.0	34.0	35.0	36.0
622½	22½	30.0	31.5	33.5	35.0	37.0	39.0	40.0	42.0
625	25	34.0	36.0	38.0	40.0	42.0	44.0	45.0	47.0
630	30	42.0	44.5	46.5	49.0	51.5	54.5	55.5	58.0
635	35	50.0	52.5	55.5	58.0	61.0	64.5	66.0	69.0
640	40	57.5	60.0	64.0	67.0	70.5	75.0	77.0	80.0
645	45	66.0	69.5	72.5	76.0	80.0	85.0	87.0	91.0
650	50	74.0	78.0	81.5	85.5	90.0	95.0	97.5	101.5
655	55	81.5	86.0	90.5	95.0	100.0	105.5	109.0	112.5
660	60	89.0	94.0	99.0	104.0	109.5	116.0	119.0	124.0
665	65	97.5	103.0	108.5	113.0	119.0	126.0	129.0	134.5

SQUARE FOOT HOT WATER RATINGS

Temperature at Radiator 170°—Room 70°—1 Sq. Ft.—150 B. t. u. per Hour

Radiator Number	"L" Radiator Length	Enclosure Height 20″	22″	24″	26″	30″	35″	40″	50″
2 Tube—3 9/16″ Wide									
215	15	6.5	7.0	7.0	7.5	8.0	8.5	9.0	9.0
217½	17½	7.5	8.0	8.5	9.0	9.0	10.0	10.5	11.0
220	20	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5
222½	22½	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.5
225	25	11 5	12.5	13.0	13.5	14.0	15.0	15.0	16.0
230	30	14.0	15.0	15.5	16.5	17.0	18.0	18.5	19.5
235	35	17.0	17.5	18.5	19.5	20.5	21.5	22.0	23.0
240	40	19.0	20.5	22.0	22.5	23.5	25.0	25.0	26.5
245	45	22.0	23.0	24.5	25.5	27.0	28.0	29.0	30.0
250	50	24.5	25.5	27.0	28.5	30.0	31.5	32.0	33.0
255	55	27.0	28.5	29.5	31.0	33.0	35.0	35.5	37.0
260	60	29.5	31.0	33.0	34.5	36.0	38.0	39.0	40.5
265	65	32.0	33.5	35.0	37.0	39.0	41.5	42.5	44.0
3 Tube—5 9/16″ Wide									
315	15	9.0	9.5	10.5	11.0	11.0	12.0	12.5	13.0
317½	17½	11.0	11.5	12.5	13.0	13.5	14.5	15.0	15.0
320	20	13.0	13.5	14.5	15.0	16.5	17.0	17.0	18.0
322½	22½	14.5	15.0	16.0	17.0	18.5	19.5	20.0	21.0
325	25	16.5	17.5	18.5	19.5	21.0	22.0	23.0	23.0
330	30	20.0	21.0	22.0	24.0	25.0	27.0	28.0	29.0
335	35	23.5	25.0	26.5	28.0	30.0	32.0	33.0	34.0
340	40	27.0	29.0	30.5	32.5	35.0	37.0	37.5	39.0
345	45	30.5	32.0	35.0	37.0	39.0	42.0	43.0	44.5
350	50	34.5	36.5	39.0	41.0	43.5	47.0	48.0	50.0
355	55	38.0	41.0	43.0	45.5	49.0	52.0	53.0	55.0
360	60	41.5	43.0	46.5	50.0	53.0	57.0	58.0	60.5
365	65	45.0	48.5	51.0	54.0	57.5	62.0	63.0	66.0
4 Tube—7 9/16″ Wide									
415	15	11.5	12.5	13.0	14.0	14.5	15.0	15.5	16.0
417½	17½	14.0	15.0	16.0	17.0	17.0	18.5	19.0	19.5
420	20	16.5	17.5	18.5	19.5	21.0	21.5	22.0	23.0
422½	22½	19.0	20.0	21.0	22.5	23.5	25.0	25.0	26.0
425	25	21.0	21.5	24.0	25.0	26.5	28.0	29.0	29.5
430	30	25.5	27.0	29.0	31.0	32.5	34.0	35.0	36.5
435	35	30.5	32.5	34.5	36.5	38.5	40.5	41.0	43.0
440	40	35.0	37.5	40.0	42.0	44.0	47.0	48.0	50.0
445	45	40.0	42.5	45.0	47.0	49.5	53.0	54.5	57.0
450	50	45.0	47.5	50.5	53.0	55.5	59.0	61.0	64.0
455	55	49.5	53.0	55.5	59.0	61.5	65.5	67.0	71.0
460	60	54.0	57.0	60.5	64.5	67.5	72.0	74.0	77.5
465	65	59.0	62.5	66.0	70.0	74.5	78.0	80.0	84.5
5 Tube—9⅛″ Deep									
515	15	13.0	14.0	14.5	15.0	16.0	17.0	17.5	18.5
517½	17½	16.0	17.0	17.5	18.5	19.0	20.5	21.0	22.0
520	20	18.5	19.0	20.5	21.5	23.0	24.0	25.0	26.0
522½	22½	21.0	22.5	23.5	25.0	26.5	28.0	29.0	30.0
525	25	24.0	25.0	27.0	28.0	29.5	31.0	32.5	34.0
530	30	29.0	31.0	33.0	34.5	36.5	38.5	39.5	41.5
535	35	35.0	36.5	38.5	41.0	43.0	46.0	47.0	49.0
540	40	40.0	42.5	45.0	47.0	49.5	53.0	54.5	57.0
545	45	45.5	48.5	51.0	53.5	56.5	60.0	61.5	65.0
550	50	51.0	53.5	57.0	60.0	63.0	67.0	69.0	73.0
555	55	56.5	59.5	63.0	66.5	70.0	74.0	77.0	80.5
560	60	61.5	65.0	69.0	73.0	77.0	81.0	83.5	88.0
565	65	67.0	71.0	76.0	79.0	83.0	88.5	91.0	96.0
6 Tube—11⅛″ Deep									
615	15	15.0	15.5	16.5	17.0	18.0	19.0	19.5	20.0
617½	17½	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
620	20	21.0	22.5	23.0	24.5	25.5	27.0	28.0	29.0
622½	22½	24.0	25.0	27.0	28.0	29.5	31.0	32.0	33.5
625	25	27.0	29.0	30.5	32.0	33.5	35.0	36.0	37.5
630	30	33.5	35.5	37.0	39.0	41.0	43.5	44 5	46.5
635	35	40.0	42.0	44.5	46.5	49.0	51.5	53.0	55.0
640	40	46.0	48.0	51.0	53.5	56.5	60.0	61.5	64.0
645	45	53.0	55.5	58.0	61.0	64.0	68.0	69.5	73.0
650	50	59.0	62.5	65.0	68.5	72.0	76.0	78.0	81.0
655	55	65.0	69.0	72.5	76.0	80.0	84.5	87.0	90.0
660	60	71.0	75.0	79.0	83.0	87.5	93.0	95.0	99.0
665	65	78.0	82.5	87.0	90.5	95.0	101.0	103.0	107.5

Detailed dimension and tapping list on Page 20.

HOW TO ORDER

ORDERING INSTRUCTIONS

Select the proper size convector and enclosure desired. Then order each by the article number in this catalogue. Convector tappings are illustrated on page 20 and the different positions of inlet and outlet are designated by number. For example, (1) is a bottom supply and bottom return convector. All enclosures are designated by type letter and style number; see pages 8-18. It is always better to make your selections from the standard styles and types of both radiators and enclosures shown in catalogue. Orders for special sizes and types not shown must be accompanied by sketch and prices are made at the home office only. In ordering state if heating system is one pipe steam, two pipe steam or hot water. A sample order follows. If this is used as a guide in ordering there should be no mistake because of insufficient information or wrong interpretations.

The first column is a handy numerical reference of where the convectors are to be installed.

The second column gives tagging information and will enable the steamfitter to put each radiator in proper room upon arrival. Both box and radiator are tagged with location identification. Column three calls for quantity or count. Column 4 gives the radiator or convector number which identifies both the radiator length and depth. For instance a No. 345 is a 3 tube radiator 45″ long. Column 5 names the enclosure height. This is usually determined by the wall space available or by window heights if placed below a window. Columns 6 and 7 show rating of each unit and total ratings. These figures are taken from the steam or hot water rating tables on page 6. Column 8 is for the enclosure type and style as selected from the illustrations on the following pages. Column 9 is for tapping sizes and tapping locations. Also specify tapping location or position by number. The available positions are shown on page 20. Always state type of system—One Pipe Steam, Two Pipe Steam, Vapor, Vacuum or Hot Water. If dampers, mouldings or access doors are wanted, specify same with item number shown in first column.

TWO PIPE STEAM SYSTEM

Item No.	*Location of Radiator*	*Quantity*	*Radiator Number*	*Height*	*Rating Sq. Ft.*	*Total Rating Sq. Ft.*	*Type or Style*	*Tappings—Specify by Number*
1	Living	2	345	30	49.0	98.0	R-1	¾ x ½ No. 1
2	Dining	1	345	24	43.5	43.5	R-1	" " "
3	Kitchen	1	335	24	33.0	33.0	F-1	" " "
4	Hall	1	355	26	57.0	57.0	F-1	" " "
5	Lavatory	1	230	26	20.5	20.5	R-1	" " "
6	No. 1 Bedroom	2	340	26	40.5	81.0	R-1	" " "
7	No. 2 "	1	335	26	35.0	35.0	R-1	" " "
8	No. 3 "	1	335	26	35.0	35.0	R-1	" " "
9	Bath	1	325	26	24.5	24.5	R-1	" " "
10	Nursery	1	325	26	30.0	30.0	F-1	" " "
		12				457.5		

457.5 divided by 12 equals, 38 square feet average radiator size
Items number 1, 2, 3, 6, 7, 8 and 10 with dampers
" " 1, 2, 4, 9 and 10 with moulding
" " 4 and 9 with access doors in upper grille, right side.

SUGGESTED SPECIFICATIONS

All radiators to be of concealed copper convector type as manufactured by the Chase Companies. Heating elements or convectors to consist of heavy corrugated copper fins firmly bonded to ¾″ hexagon shaped copper tubing. Each fin to nest securely into its neighbor with all air space between fins and tube or fins and fins eliminated. Fin and tube assembly to withstand expansion and contraction without taking permanent set. No solder or other bonding material can be used. Tubes to be flared and securely fastened to headers with brass compression nuts. Headers to be of best grade gray cast iron. All heating units or convectors must be guaranteed to withstand fifty pounds working pressure and tested to one hundred pounds hydrostatic pressure. Enclosures to be constructed of high grade furniture steel and finished in gray primer coat. Top and ends to be 18 gage, backs 20 gage and fronts 16 gage. Enclosures to be neatly constructed, securely welded and properly braced. Type of enclosures to be as shown in the catalogue of the Chase Brass & Copper Co.

CHASE ENCLOSURES

TYPE R—Styles R-1, R-2, R-3, R-4

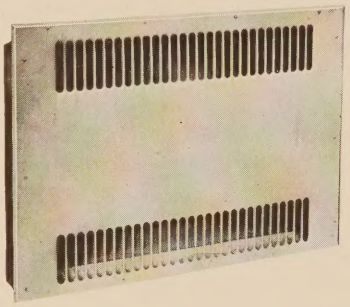
The Type "R" Chase Enclosure is fully recessed with metal panel front. It is adaptable to all classes of installation and with beveled edges, which are standard, presents a neat appearance. The large variety of sizes gives the architect, owner or heating contractor almost unlimited selection and saves going into special sizes at higher costs. With Chase Convectors furniture can be arranged around all four wall spaces. They are out of sight and out of the way and even comfortable heating is assured. Please order enclosures by the style number given each enclosure.

DETAILED LATERAL VIEW

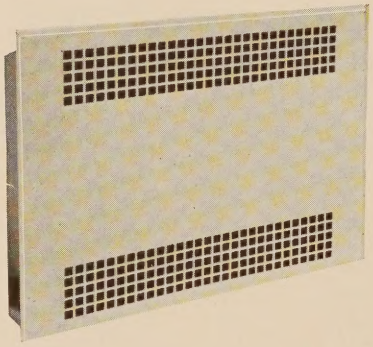
Below is a cross section of the type "R" Enclosure installed with a Chase Copper Convector.

Note how completely the Chase type "R" Enclosure fits into the wall. Insulation should be used around the sides, top and back of the enclosure.

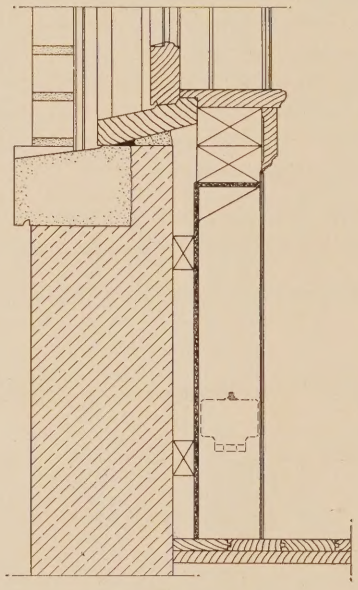
The detailed measurements on the opposite page provide for insulation space.



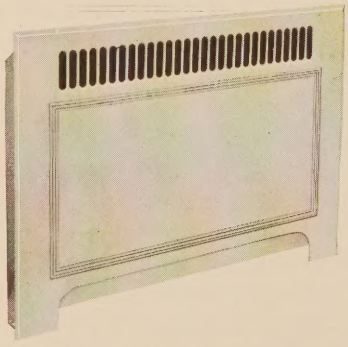
Style R-1.
Upper and lower bar grille.



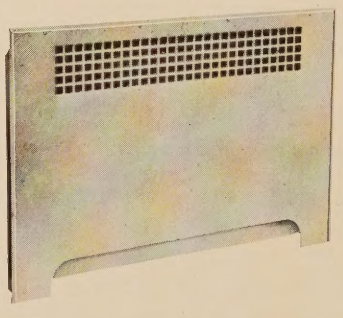
Style R-2.
Upper and lower square lattice grille.



FULL RECESS



Style R-3. Upper bar grille and sanitary lower opening.



Style R-4. Upper square lattice grille and sanitary lower opening.

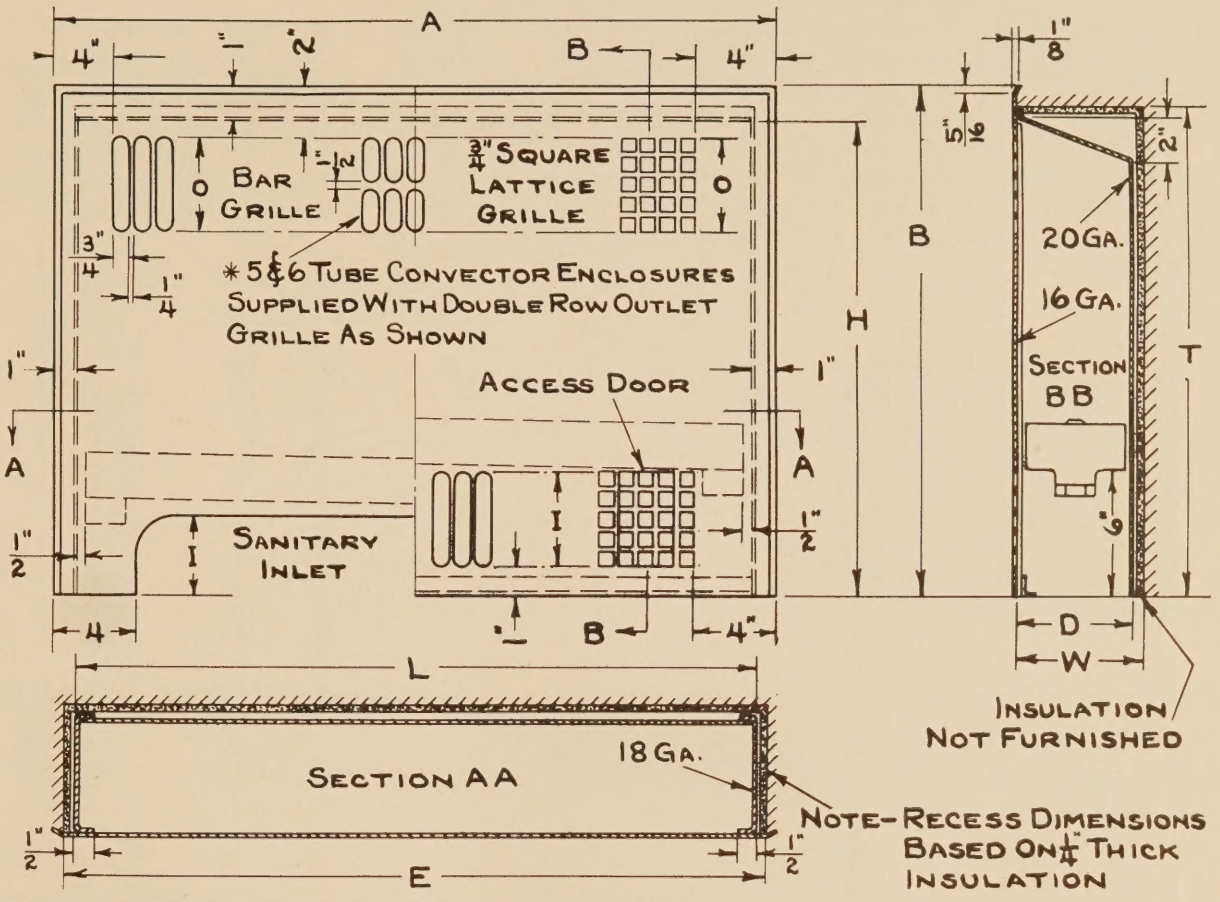
Mouldings, access doors and dampers are available on all styles at a slight additional charge.

DETAIL DIMENSIONS

TYPE-R.

FULL RECESS.

REMOVABLE FRONT ENCLOSURE



NUMBER OF TUBES		2	3	4	5	6
DEPTH OF CONVECTOR		3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D-DEPTH OF ENCLOSURE		3 13/16	5 13/16	7 13/16	9 7/16	11 7/16
W-DEPTH OF RECESS		4 3/8	6 3/8	8 3/8	10	12
BAR GRILLE	O-OUTLET HEIGHT	3 1/2	5	5	*7 1/2	*7 1/2
	I-INLET HEIGHT	3 1/2	5	5	5	5
LATTICE GRILLE	O-OUTLET HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
	I-INLET HEIGHT	3 3/4	4 3/4	4 3/4	4 3/4	4 3/4

SANITARY INLET					
NO. TUBES	2	3	4	5	6
I	3 1/2	4	4	5	5

H-HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50
B-HEIGHT OF FRONT PANEL	21	23	25	27	31	36	41	46	51
T-HEIGHT OF RECESS	20 1/2	22 1/2	24 1/2	26 1/2	30 1/2	35 1/2	40 1/2	45 1/2	50 1/2

LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L-LENGTH OF ENCLOSURE	16 1/8	18 5/8	21 1/8	22 5/8	26 1/8	31 1/8	36 1/8	41 1/8	46 1/8	51 1/8	56 1/8	61 1/8	66 1/8
A-LENGTH OF FRONT PANEL	18	20 1/2	23	25 1/2	28	33	38	43	48	53	58	63	68
E-LENGTH OF RECESS	17	19 1/2	22	24 1/2	27	32	37	42	47	52	57	62	67

CHASE ENCLOSURES

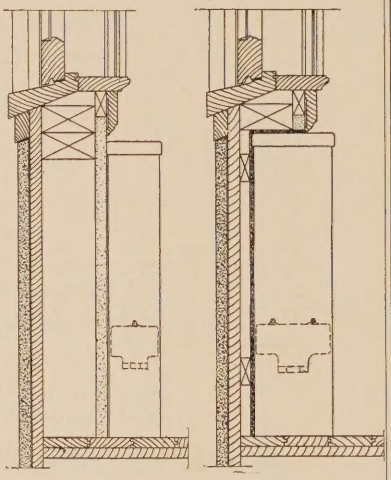
TYPE F—Style F-1, F-2, F-3 and F-4

The type "F" enclosure can be used as free standing, semi-recessed or fully recessed and on all types of jobs. If walls are so constructed that recessing is impractical the type "F" enclosure can be placed in an out of the way corner or under a window. It is neat in design, can be finished to match walls, is inconspicuous and occupies less space than the old-fashioned column radiators. When used partly recessed a quarter, round or cove moulding is run around the sides and top and if fully recessed the same effect is obtained as with the Type "R." The enclosure front is removable by simply raising one-half an inch and pulling forward. Please order enclosures by the style number given each enclosure.

DETAILED LATERAL VIEW

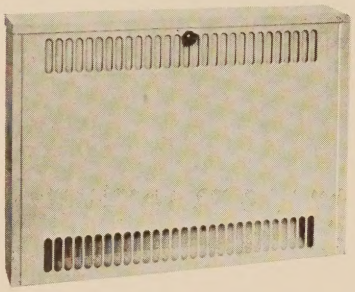
The three methods of installing the free standing, semi-recessed and fully recessed enclosure are detailed below.

Insulation should be used between the walls and back, sides and top of the enclosure if it is fully or partly recessed. An access door is not necessary because of the removable front.



FREE STANDING

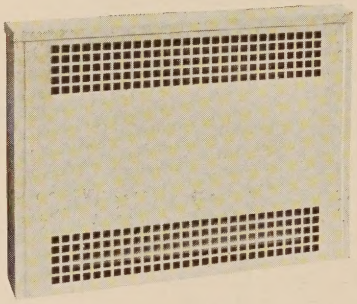
PARTIAL RECESS



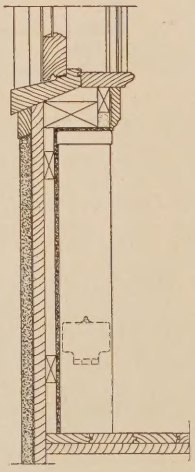
Style F-1.
Bar upper and lower grilles.

CHASE

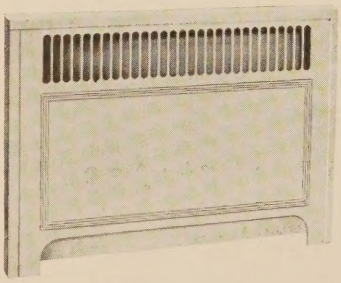
Dampers and moldings on front can be furnished at slight additional cost.



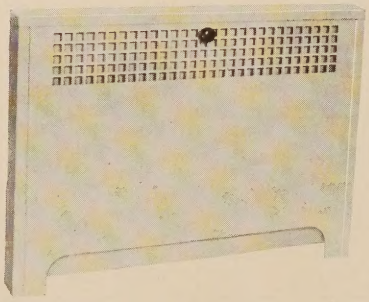
Style F-2.
Square lattice upper and lower grille.



FULL RECESS



Style F-3. Bar upper grille and sanitary bottom opening.



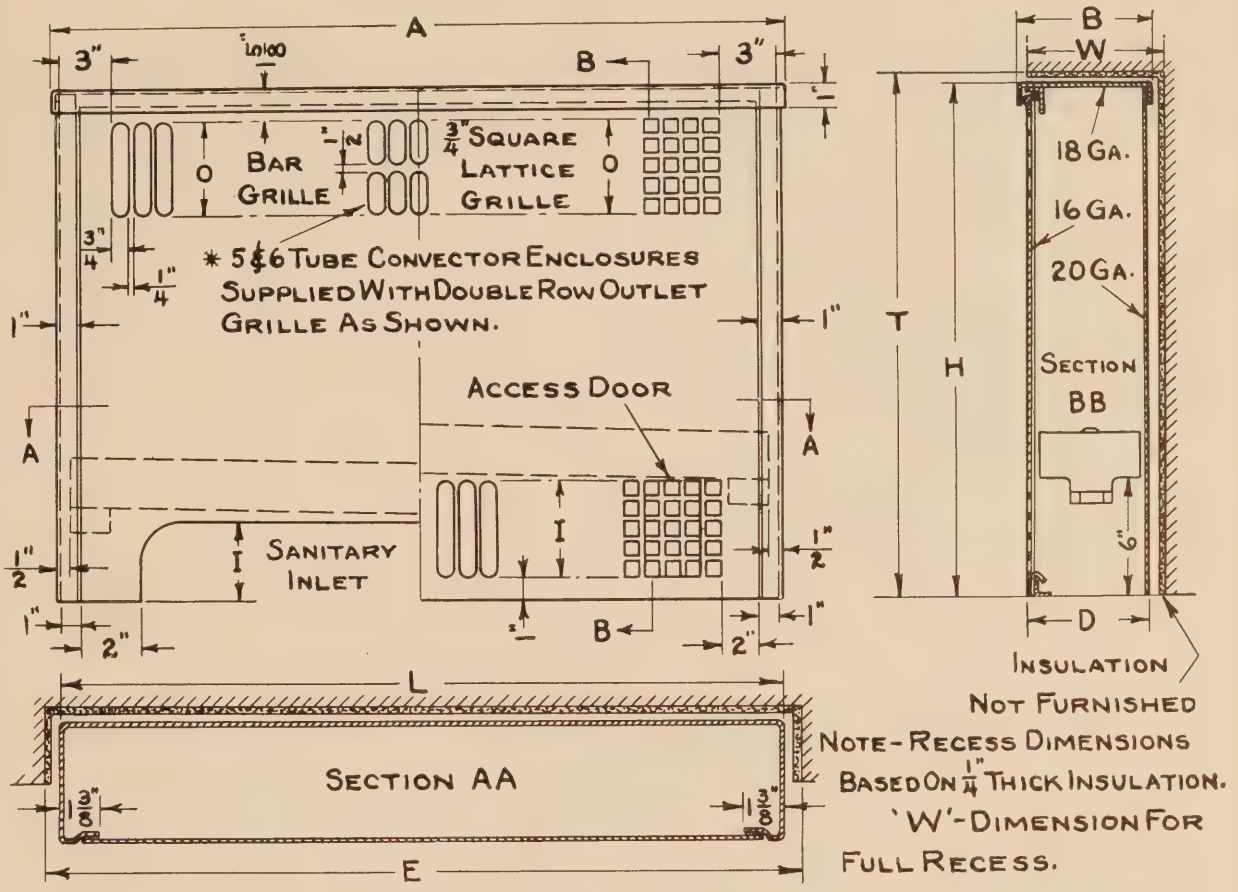
Style F-4. Square lattice upper and sanitary bottom opening.

DETAIL DIMENSIONS

TYPE-F.

FREE STANDING SEMI-RECESS FULL RECESS.

REMOVABLE FRONT ENCLOSURE



NOTE - RECESS DIMENSIONS BASED ON 1" THICK INSULATION.

'W' - DIMENSION FOR FULL RECESS.

NUMBER OF TUBES		2	3	4	5	6
DEPTH OF CONVECTOR		3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D - DEPTH OF ENCLOSURE		3 7/8	5 7/8	7 7/8	9 1/2	11 1/2
W - DEPTH OF RECESS		4 3/8	6 3/8	8 3/8	10	12
BAR GRILLE	O - OUTLET HEIGHT	3 1/2	5	5	*7 1/2	*7 1/2
	I - INLET HEIGHT	3 1/2	5	5	5	5
LATTICE GRILLE	O - OUTLET HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
	I - INLET HEIGHT	3 3/4	4 3/4	4 3/4	4 3/4	4 3/4
B - WIDTH OF TOP		4 1/8	6 1/8	8 1/8	9 11/16	11 11/16

SANITARY INLET					
NO. TUBES	2	3	4	5	6
I	3 1/2	4	4	5	5

H - HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50
T - HEIGHT OF RECESS	20 1/2	22 1/2	24 1/2	26 1/2	30 1/2	35 1/2	40 1/2	45 1/2	50 1/2

LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L - LENGTH OF ENCLOSURE	16 1/8	18 5/8	21 1/8	23 5/8	26 1/8	31 1/8	36 1/8	41 1/8	46 1/8	51 1/8	56 1/8	61 1/8	66 1/8
E - LENGTH OF RECESS	17	19 1/2	22	24 1/2	27	32	37	42	47	52	57	62	67
A - LENGTH OF TOP	16 1/4	18 3/4	21 1/4	23 3/4	26 1/4	31 1/4	36 1/4	41 1/4	46 1/4	51 1/4	56 1/4	61 1/4	66 1/4

CHASE ENCLOSURES

TYPE P—PLASTER FRONT ENCLOSURES

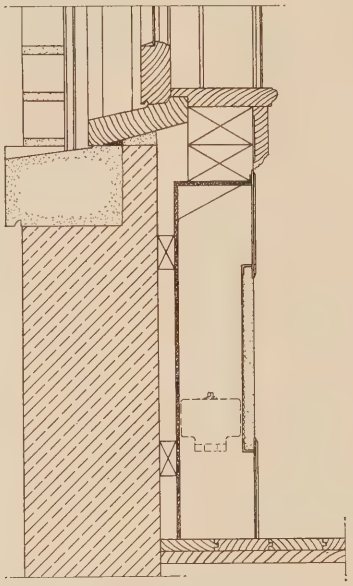
Plaster front enclosures are mostly used in homes where the metal panel front is objectionable and the front is plastered and painted or papered to match the walls. Only the top and bottom grilles show. The space between the grilles can be filled in with wood paneling if desired. Note—Regular throat provides for ¾" plaster thickness but any depth throat can be provided if needed for tile or other type wall finish. Mouldings are not available.

Order all enclosures by the style number given each enclosure.

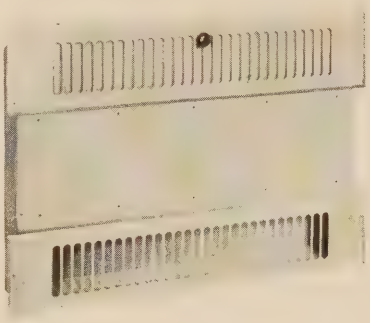
DETAILED LATERAL VIEW

Here is a cross-cut side view of a type "P" enclosure installed with a Chase Copper Convector. It is fully recessed.

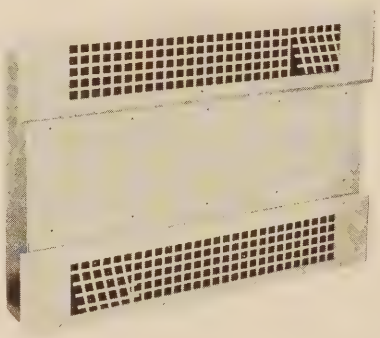
Insulation should be used between the enclosure and walls. The details on the opposite page show ½" allowance around top, sides and back for insulation.



PARTIAL RECESS

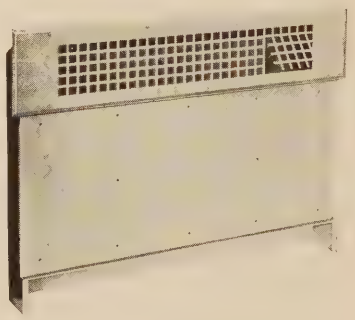


Style P-1.
Bar upper
and lower grilles.



Style P-2.
Square lattice upper
and lower grilles.

Style P-3. Bar upper grille and sanitary bottom opening.



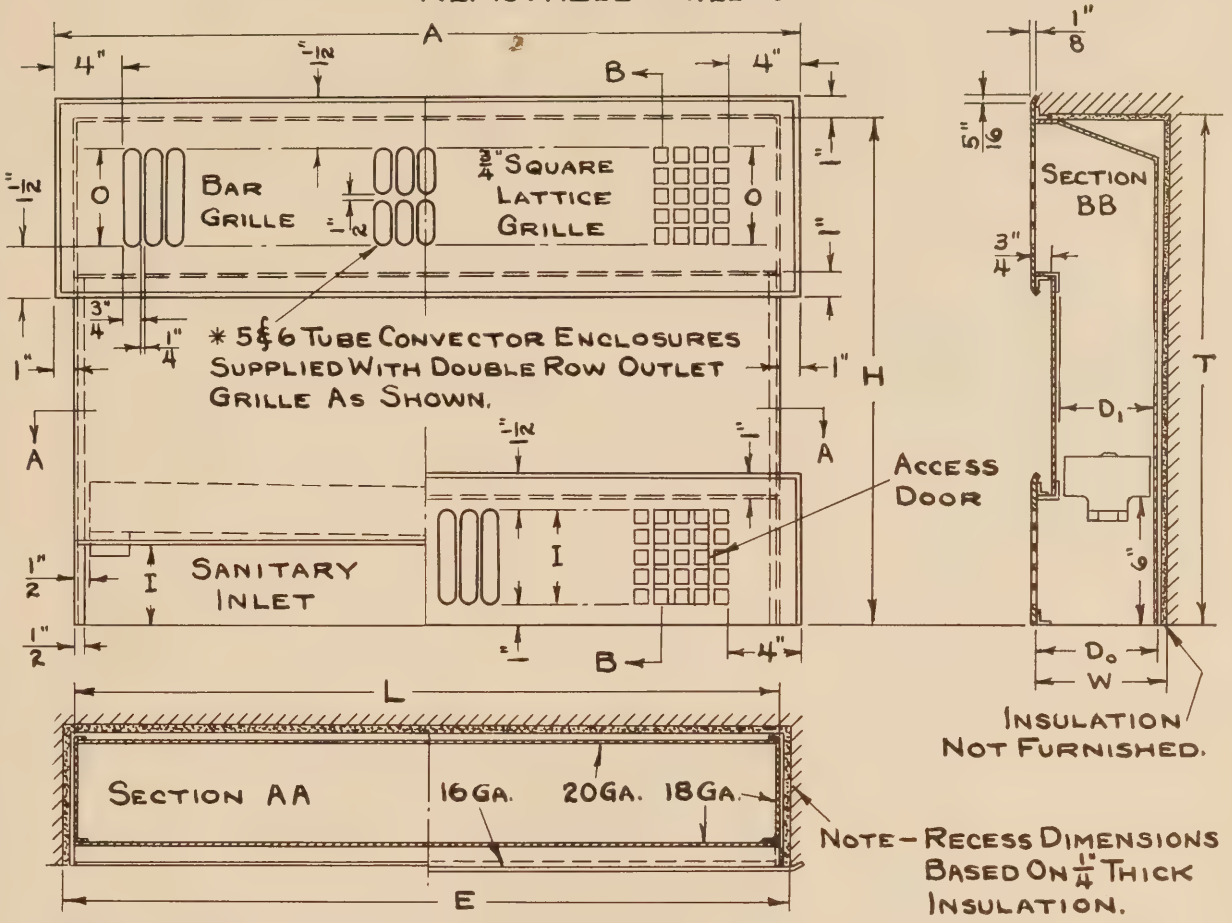
Style P-4. Square lattice upper and sanitary bottom opening.

Access doors, and dampers are available on all styles at a slight additional charge.

DETAIL DIMENSIONS

TYPE-P

FULL RECESS PLASTER FRONT ENCLOSURE
REMOVABLE GRILLES



NOTE – RECESS DIMENSIONS BASED ON 1/4" THICK INSULATION.

NUMBER OF TUBES		2	3	4	5	6
DEPTH OF CONVECTOR		3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D_1-DEPTH OF ENCLOSURE		3 13/16	5 13/16	7 13/16	9 9/16	11 7/16
D_0-DEPTH OF ENCLOSURE		4 5/8	6 5/8	8 5/8	10 1/4	12 1/4
W-DEPTH OF RECESS		5 1/8	7 1/8	9 1/8	10 3/4	12 3/4
BAR GRILLE	O-OUTLET HEIGHT	3 1/2	5	5	* 7 1/2	* 7 1/2
	I-INLET HEIGHT	3 1/2	5	5	5	5
LATTICE GRILLE	O-OUTLET HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
	I-INLET HEIGHT	3 3/4	4 3/4	4 3/4	4 3/4	4 3/4

SANITARY INLET					
NO. TUBES	2	3	4	5	6
I	3 1/2	4	4	5	5

H-HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50
T-HEIGHT OF RECESS	20 1/2	22 1/2	24 1/2	26 1/2	30 1/2	35 1/2	40 1/2	45 1/2	50 1/2

LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L-LENGTH OF ENCLOSURE	16 1/8	18 5/8	21 1/8	23 5/8	26 1/8	31 1/8	36 1/8	41 1/8	46 1/8	51 1/8	56 1/8	61 1/8	66 1/8
E-LENGTH OF RECESS	17	19 1/2	22	24 1/2	27	32	37	42	47	52	57	62	67
A-LENGTH OF PANELS	18	20 1/2	23	25 1/2	28	33	38	43	48	53	58	63	68

CHASE ENCLOSURES

TYPE W—Wall Hung

This enclosure is for use where walls cannot accommodate fully recessed enclosures or where space saving is of little or no value. The type "W" enclosure is hung snugly against the wall about 6″ above the floor and adapts itself to schools or other public buildings. Even suspended from the wall it occupies less space than the old-fashioned column radiators. The front is removable by simply sliding it up and pulling forward.

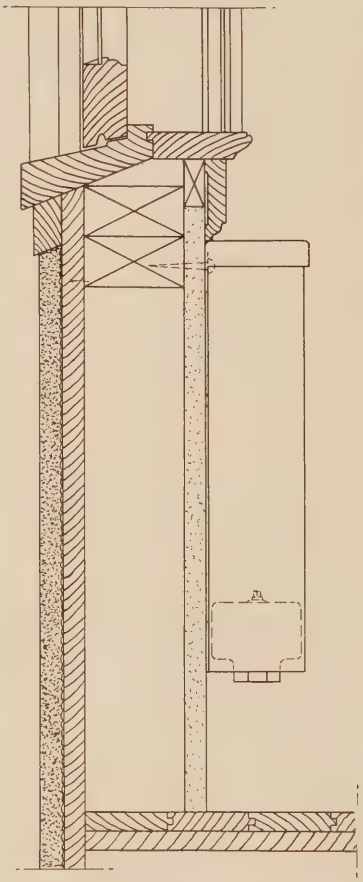
Style W-1.
Bar upper grille.

Style W-2.
Square lattice upper grille.

Style W-3. Square lattice top outlet grille.

DETAILED LATERAL VIEW

Below is shown the neat compact and sanitary application of a Chase type "W" enclosure and Chase convector. No insulation is necessary with a wallhung installation. No access doors are necessary.

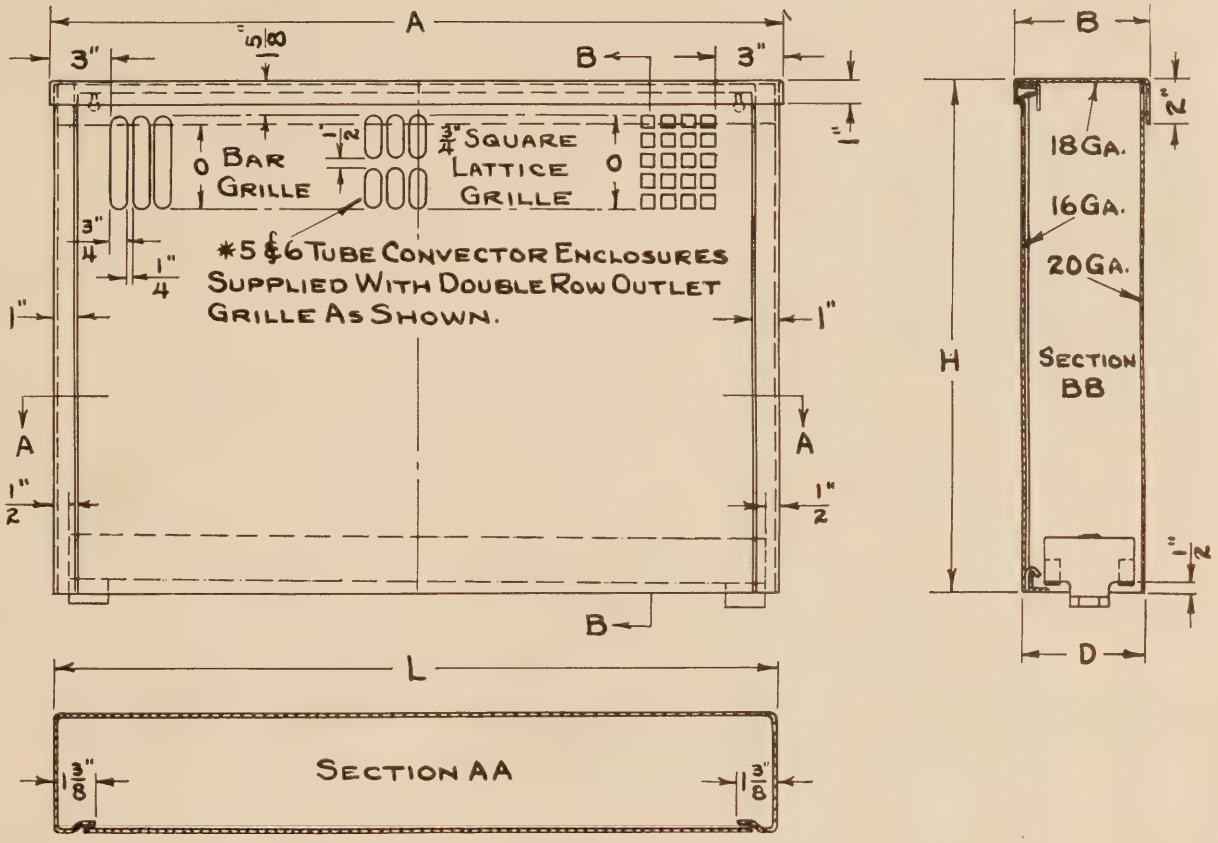


WALL HUNG

Dampers and mouldings can be had at slight additional cost.
Order enclosures by the style number given each enclosure.

DETAIL DIMENSIONS

TYPE-W
WALL HUNG
REMOVABLE FRONT ENCLOSURES



NUMBER OF TUBES	2	3	4	5	6
DEPTH OF CONVECTOR	3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D-DEPTH OF ENCLOSURE	4 1/16	6 1/16	8 1/16	9 5/8	11 5/8
O-BAR GRILLE HEIGHT	3 1/2	5	5	* 7 1/2	* 7 1/2
O-LATTICE GRILLE HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
B-WIDTH OF TOP	4 3/16	6 3/16	8 3/16	9 3/4	11 3/4

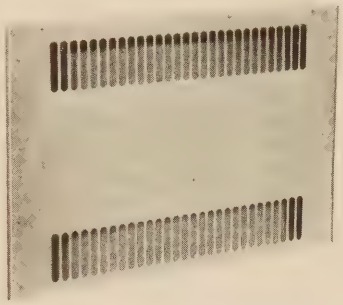
H-HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50

LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L-LENGTH OF ENCLOSURE	16 1/8	18 5/8	21 1/8	23 5/8	26 1/8	31 1/8	36 1/8	41 1/8	46 1/8	51 1/8	56 1/8	61 1/8	66 1/8
A-LENGTH OF TOP	16 1/4	18 3/4	21 1/4	23 3/4	26 1/4	31 1/4	36 1/4	41 1/4	46 1/4	51 1/8	56 1/4	61 1/4	66 1/4

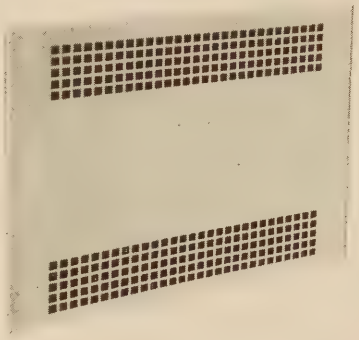
CHASE ENCLOSURES

TYPE RO—Front Only

Where lack of funds does not permit the installation of metal enclosures complete, fronts only can be used. The fronts only as shown below present the same outward appearance as the type "R" complete enclosure illustrated on page 8.

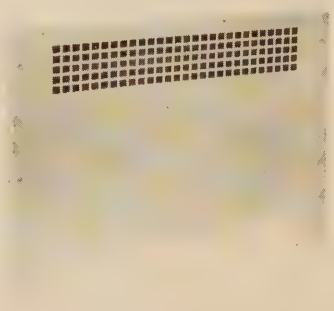


Style RO-1.
Bar upper
and lower grille.



Style RO-2.
Square lattice upper
and lower grille.

Style RO-3. Bar upper and sanitary lower opening.

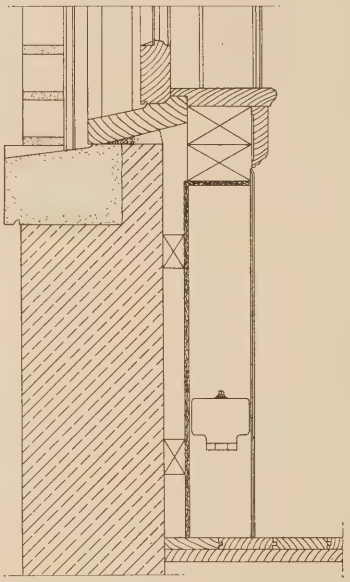


Style RO-4. Square lattice upper and sanitary lower opening.

DETAILED LATERAL VIEW

The cross section below shows the application of Style RO fronts only. Insulation *must* be used with these fronts to prevent infiltration of air and they must be tightly fitted around corners of the recess.

Order enclosures by the style number given each enclosure.



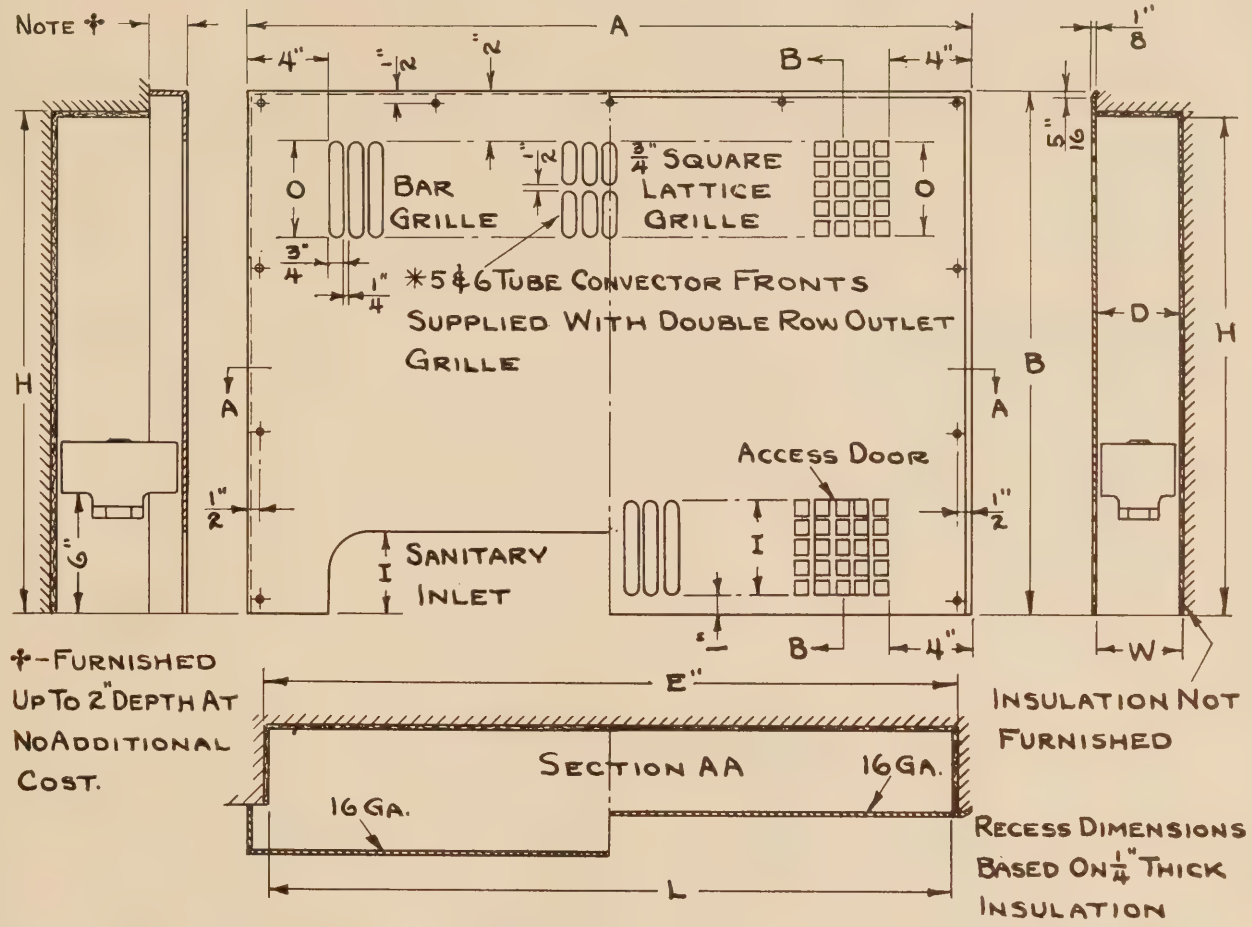
FULL RECESS
Metal Front Only—No Liner

Mouldings, access doors, and dampers are available on all styles at a slight additional charge.

DETAIL DIMENSIONS

TYPE-RO-FRONT ONLY

REMOVABLE METAL FRONT – NO LINER



NUMBER OF TUBES		2	3	4	5	6
DEPTH OF CONVECTOR		3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D-DEPTH OF ENCLOSURE		3 13/16	5 13/16	7 13/16	9 7/16	11 7/16
W-DEPTH OF RECESS		4 1/16	6 1/16	8 1/16	9 11/16	11 11/16
BAR GRILLE	O-OUTLET HEIGHT	3 1/2	5	5	*7 1/2	*7 1/2
	I-INLET HEIGHT	3 1/2	5	5	5	5
LATTICE GRILLE	O-OUTLET HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
	I-INLET HEIGHT	3 3/4	4 3/4	4 3/4	4 3/4	4 3/4

SANITARY INLET					
NO. TUBES	2	3	4	5	6
I	3 1/2	4	4	5	5

H-HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50	
B-HEIGHT OF FRONT PANEL	21	23	25	27	31	36	41	46	51	
T-HEIGHT OF RECESS	20 1/4	22 1/4	24 1/4	26 1/4	30 1/4	35 1/4	40 1/4	45 1/4	50 1/4	
LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L-LENGTH OF ENCLOSURE	16	18 1/2	21	23 1/2	26	31	36	41	46	51	56	61	66
A-LENGTH OF FRONT PANEL	18	20 1/2	23	25 1/2	28	33	38	43	48	53	58	63	68
E-LENGTH OF RECESS	16 1/2	19	21 1/2	24	26 1/2	31 1/2	36 1/2	41 1/2	46 1/2	51 1/2	56 1/2	61 1/2	66 1/2

CHASE ENCLOSURES

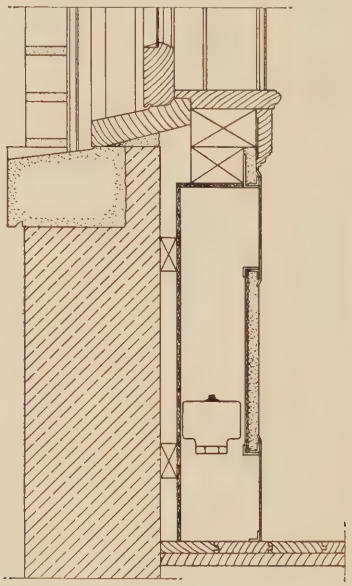
TYPE PO—Front Only

Where the funds available do not permit the installation of complete enclosures with Chase Copper Convectors, fronts only can be used. The style "PO" front only as shown here presents the same outward appearance as the style "P" plaster front and enclosure shown on page 12. The only difference is that no metal recess enclosure is provided with the "PO" front. Mouldings are not available.

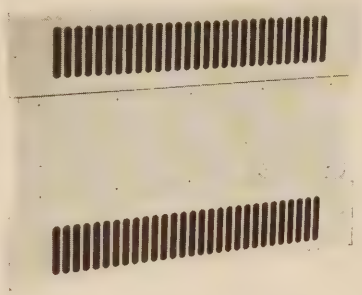
DETAILED LATERAL VIEW

Below is illustrated the cross section of a style "PO" front only. Insulation *must* be used with these fronts to guard against air infiltration.

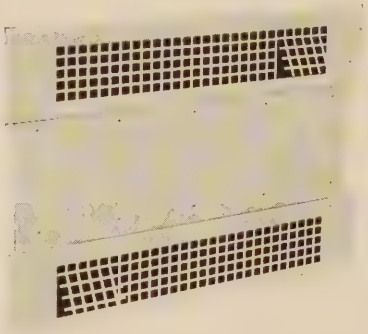
Order enclosures by the style number given each enclosure.



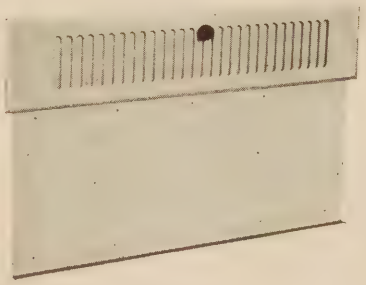
FULL RECESS
Plaster Front Only—No Liner



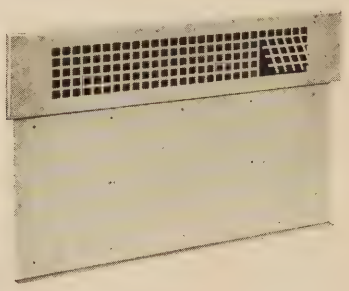
Style PO-1.
Bar upper
and lower grille.



Style PO-2.
Square lattice upper
and lower grille.



Style PO-3. Bar upper grille and sanitary lower opening.



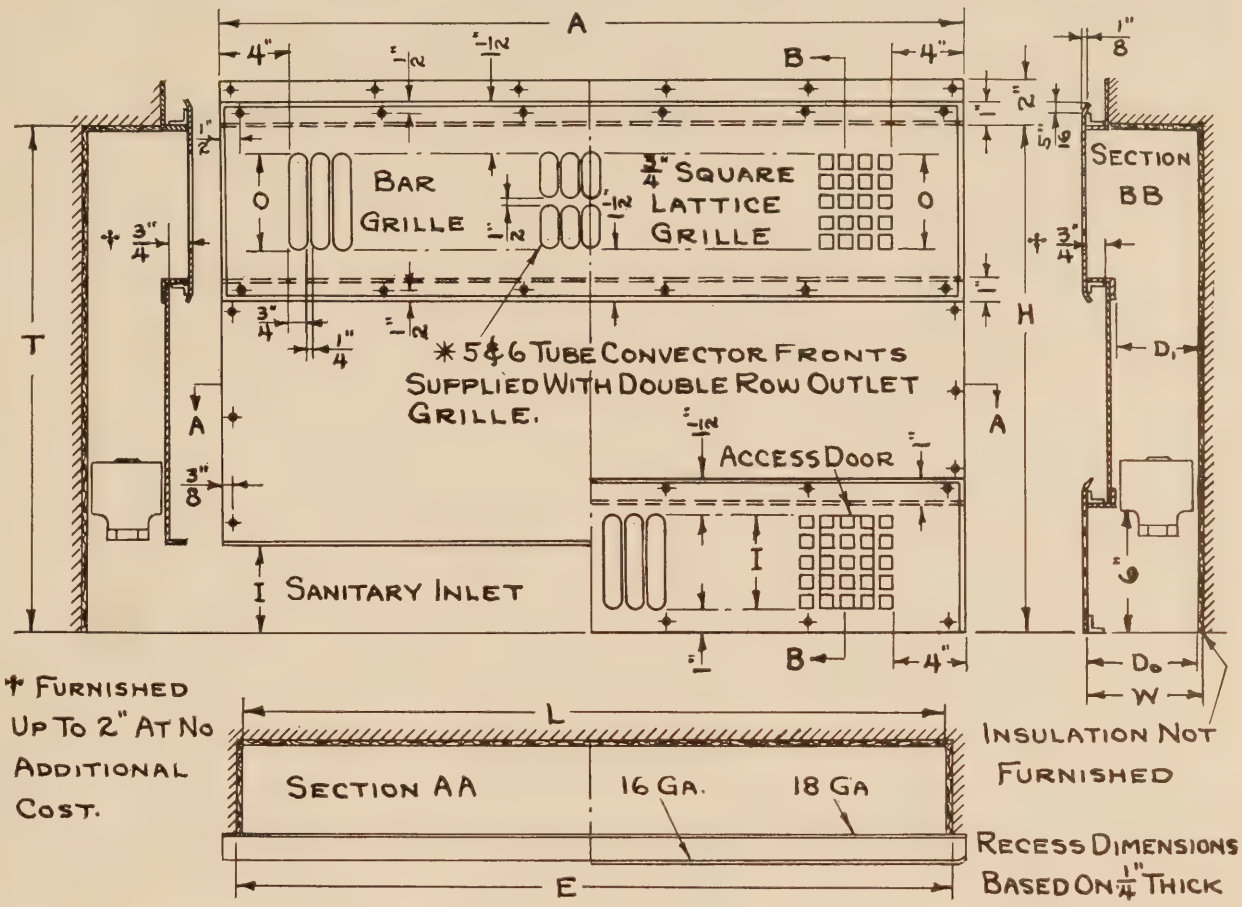
Style PO-4. Square lattice upper grille and sanitary lower opening.

Access doors, and dampers are available on all styles at a slight additional charge.

DETAIL DIMENSIONS

TYPE-PO-FRONT ONLY

PLASTER FRONT - NO LINER - REMOVABLE GRILLES



NUMBER OF TUBES		2	3	4	5	6
DEPTH OF CONVECTOR		3 9/16	5 9/16	7 9/16	9 1/8	11 1/8
D_1-DEPTH OF ENCLOSURE		3 13/16	5 13/16	7 13/16	9 7/16	11 7/16
D_o-DEPTH OF ENCLOSURE		4 5/8	6 5/8	8 5/8	10 1/4	12 1/4
W-DEPTH OF RECESS		4 7/8	6 7/8	8 7/8	10 1/2	12 1/2
BAR GRILLE	O-OUTLET HEIGHT	3 1/2	5	5	* 7 1/2	* 7 1/2
	I-INLET HEIGHT	3 1/2	5	5	5	5
LATTICE GRILLE	O-OUTLET HEIGHT	3 3/4	4 3/4	5 3/4	6 3/4	7 3/4
	I-INLET HEIGHT	3 3/4	4 3/4	4 3/4	4 3/4	4 3/4

SANITARY INLET					
NO. TUBES	2	3	4	5	6
I	3 1/2	4	4	5	5

H-HEIGHT OF ENCLOSURE	20	22	24	26	30	35	40	45	50
T-HEIGHT OF RECESS	20 1/4	22 1/4	24 1/4	26 1/4	30 1/4	35 1/4	40 1/4	45 1/4	50 1/4

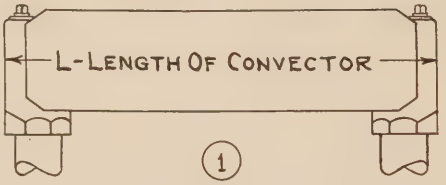
LENGTH OF CONVECTOR	15	17 1/2	20	22 1/2	25	30	35	40	45	50	55	60	65
L-LENGTH OF ENCLOSURE	16	18 1/2	21	23 1/2	26	31	36	41	46	51	56	61	66
E-LENGTH OF RECESS	16 1/2	19	21 1/2	24	26 1/2	31 1/2	36 1/2	41 1/2	46 1/2	51 1/2	56 1/2	61 1/2	66 1/2
A-LENGTH OF PANELS	18	20 1/2	23	25 1/2	28	33	38	43	48	53	58	63	68

TAPPING INFORMATION

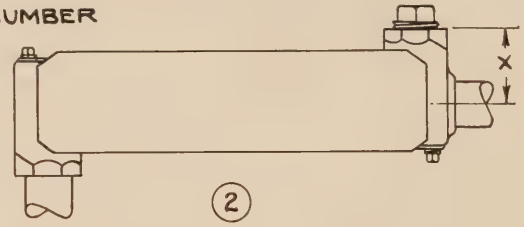
Chase Copper Convectors are available with seven different tapping positions as shown below. In ordering convectors specify the tapping positions wanted by using the number circled under each illustration and also give the tapping sizes.

Cuts No. 6 and No. 7 show the Chase Convector Air Valve for one pipe steam work. This valve is especially adaptable to convectors and was developed especially for use on Chase radiators used with one pipe steam jobs. The ¾" tubes used in Chase Convectors provide ample space for both steam and condensation and when used in conjunction with the Chase Convector Air Valve they provide smooth, economical and efficient performance.

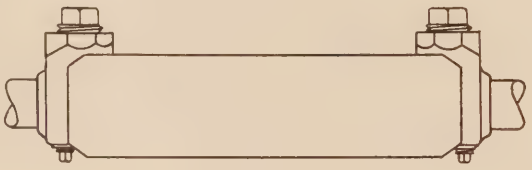
AVAILABLE STANDARD CONVECTOR CONNECTIONS
ORDER BY NUMBER



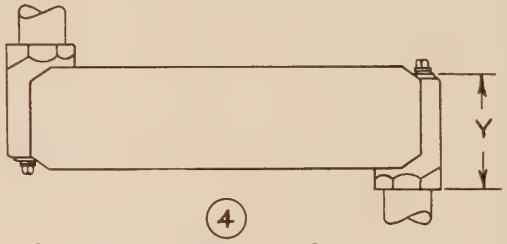
(1)
BOTTOM SUPPLY - BOTTOM RETURN



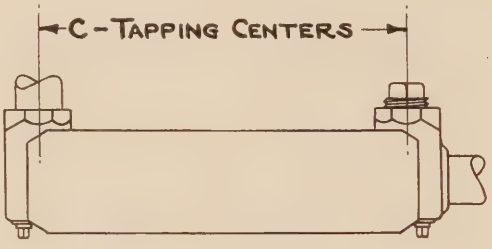
(2)
BOTTOM SUPPLY - END RETURN
BOTTOM RETURN - END SUPPLY



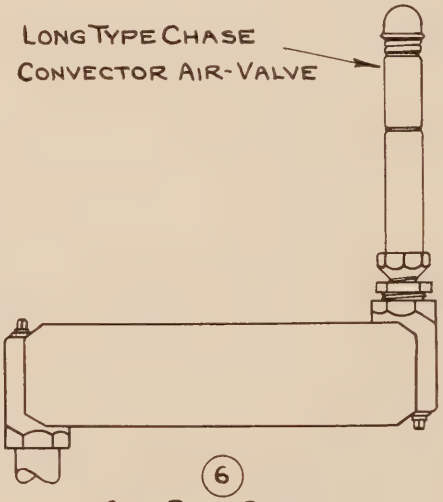
(3)
END SUPPLY - END RETURN



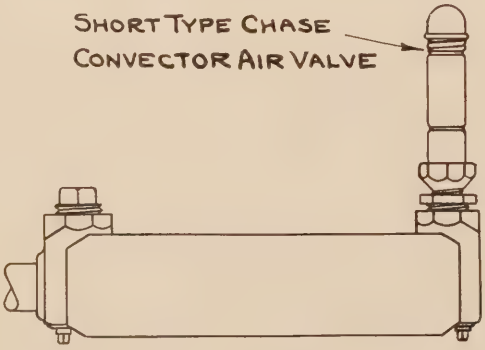
(4)
TOP SUPPLY - BOTTOM RETURN



(5)
TOP SUPPLY - END RETURN



(6)
ONE PIPE STEAM
BOTTOM SUPPLY & RETURN



(7)
ONE PIPE STEAM
END SUPPLY & RETURN

TAPPING INFORMATION

SIZE	TAP	C	X	Y
2-TUBE	1" I.P.S.	L-MINUS 1¾"	2 1/16"	3 1/4"
3-TUBE	1¼" I.P.S	L-MINUS 2¼"	2 3/16"	3 3/4"
4-TUBE	1½" I.P.S.	L-MINUS 2½"	2 3/16"	3 3/4"
5-TUBE	2" I.P.S.	L-MINUS 3"	2 3/8"	4 1/4"
6-TUBE	2" I.P.S.	L-MINUS 3"	2 3/8"	4 1/4"

Chase Convector Air Valve for Concealed Radiation on One Pipe Steam Systems

The Chase "Convector" Air Valve is easy to install. Just screw it into place.

No more building of costly, make-shift air chambers on the job.

It eliminates spitting, hissing and leaking.

The quick heating qualities of copper concealed radiators have created the need for proper venting, and air valves of ordinary construction will not do this satisfactorily.

Chase Engineers have successfully solved the problem and now offer the new Chase "Convector" Air Valve for use with concealed radiators on one pipe steam systems.

The new Chase "Convector" Air Valve is provided with an adjustment allowing individual micrometrical adjustment of each valve to the size and capacity of the radiator. This permits not only maximum efficiency from each radiator but balances the entire heating system regardless of distance from the boiler or location of the radiator. A removable screw cap protects the adjusting screw so that it will not change its position unless it is done so purposely.

The high float prevents the possibility of the valve closing before all the air has been eliminated from the radiator. The condensation taking place in a cold concealed radiator normally paralyzes ordinary valves so that the air cannot escape. The new Chase Air Valve is constructed with the float located above the condensation level, water baffle and controlled air chamber, so that proper venting is assured and the radiator is brought up to full heating efficiency, silently and without water leakage.

SPECIFICATIONS

Base: Heavy cast brass accurately machined.

Shell: Made from seamless tubing.

Baffle Plate: Formed from sheet brass.

Float: Volatile type. Brass shell fitted with special phosphor bronze diaphragm designed for proper flexing during long life of valve. Accurately machined non-corrosive nickel silver seating pin assembled to top float shell. Point is shaped to eliminate sticking and planished to insure proper seating. Each float is filled with a specific quantity of thermostatic liquid and tested to operate at correct temperature.

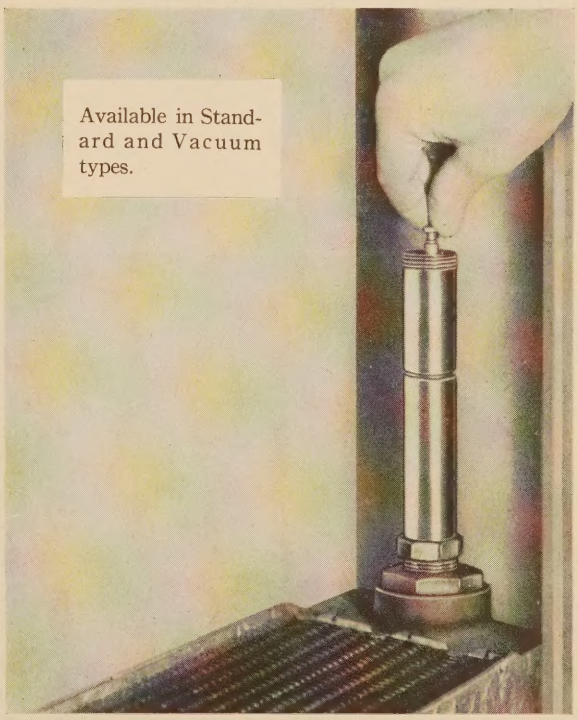
Float Rest: Stamped from heavy sheet brass.

Micromatic Adjusting Screw: Turned to very close tolerances from brass rod. Splines in head provide known adjustment to .001″.

Friction Adjustment Retainer: Stamped from spring brass. Finger bears against splines in head of adjusting screw. Each spline allows adjustment to .001″ and retains vent screw firmly in position.

Finish: Brushed brass and lacquered.

Packed one in attractive box.



Chase "Convector" Air Valve installed on a concealed radiator. Each valve may be micrometrically adjusted to the size and capacity of the radiator.

Chase Copper Water Tube and Sweat Fittings for Heating Lines

UNDIVIDED RESPONSIBILITY

We call attention to the advantage of being able to use the products of one manufacturer on your heating installations. Chase copper water tube and sweat fittings are known and sold under the characteristic and distinctive Chase mark shown below. In this way the success of the installation is directly placed upon one manufacturer who is responsible for the heating lines as well as the radiators. Plumbers, jobbers, architects and builders will recognize this undivided responsibility as an advantage.

GENERAL ADVANTAGES OF COPPER TUBE FOR HEATING

Briefly, the advantages that recommend copper tube for heating are: 1) copper does not rust, the water, vapor, or steam inside the lines is kept clean; 2) delicately adjusted thermostatic valves and traps are not rust-clogged out of commission; 3) rustless heating pipes also eliminate the need for dirt pockets in steam mains; 4) copper is inexpensive and as satisfactory for giving service as any material known.

STRENGTH OF SWEATED JOINTS

When Chase fittings are properly sweated to the tubing, they will stand tremendous pressures. A Chase coupling sweated to a ½" "Type M" copper tube will stand a tensile test of 3,800 lbs. leaving the joint intact.

The heating lines for this vapor vacuum installation are Chase Copper Tube and Sweat Fittings. Notice the smooth trim appearance of the joints.

TEMPER OF TUBE

Both hard and soft tube are available for heating lines. In remodelling work, and in replacing old heating systems the soft copper tube will be found particularly useful for working down between walls. In this way it is not necessary to tear open the walls, because long 60 ft. coils of tube can be used, which avoid the necessity of making useless connections.

For all soft copper tube we recommend "Type L" copper tube for heating lines.

For the average new installation we recommend "Type M" copper tube for heating lines.

TYPES OF HEATING SYSTEMS

Copper water tube is adaptable for all low pressure heating systems.

PRESSURE

While we do not recommend the use of copper tube and soft solder with any steam system having more than 30 lbs. pressure, the factor of safety over such pressure is very great. In actual water pressure tests ½" Chase hard "Type M" copper tube and fittings when connected together have withstood over 5,000 lbs. per square inch.

GREATEST NEED FOR COPPER ON RETURN LINES

While we recommend copper tube for all heating lines, it is in the return lines that the greatest amount of rusting takes place. Architects and Engineers have learned by experience that these are the lines that are apt to rust, and in larger installations may need replacement, after a very short period of service. Copper tube is ideal for such use.

PRE-CLEANED TUBE

All Chase copper tube is put through a special cleaning process which removes all grease, dirt, or small particles, which might tend to increase the friction and slow down the steam flow, or interfere with the proper operation of the heating system.

SIZES AND WEIGHTS OF TYPE "M" TUBE

We can furnish tube and fittings up to and including 8″. Here are the sizes and weights of Chase copper tube for Heating lines.

Nominal Size	*Outside Diameter*	*Inside Diameter*	*Wall Thickness*	*Pounds Per Lineal Foot*
½ Inch	.625 Inch	.569 Inch	.028 Inch	.203 Lbs.
¾ "	.875 "	.811 "	.032 "	.328 "
1 "	1.125 "	1.055 "	.035 "	.464 "
1¼ "	1.375 "	1.291 "	.042 "	.681 "
1½ "	1.625 "	1.527 "	.049 "	.94 "
2 "	2.125 "	2.009 "	.058 "	1.46 "
2½ "	2.625 "	2.495 "	.065 "	2.03 "
3 "	3.125 "	2.981 "	.072 "	2.68 "
3½ "	3.625 "	3.459 "	.083 "	3.58 "
4 "	4.125 "	3.935 "	.095 "	4.66 "
5 "	5.125 "	4.917 "	.109 "	6.66 "
6 "	6.125 "	5.880 "	.122 "	8.91 "
8 "	8.125 "	7.785 "	.170 "	16.46 "

STEAM CARRYING CAPACITIES

The steam carrying capacity of copper tube is greater than that of iron pipe of the same nominal size. For example, in a steam main, 2″ copper tube is capable of taking care of a load of 444 sq. ft. of radiation as compared with 386 sq. ft. for 2″ iron pipe. This is an increase of 15.1%.

For equal steam pressure drop the capacity of copper tube is on the average 10% greater than for the same nominal size of iron pipe. Because of this it is frequently possible to use tube of smaller size.

PIPE COVERING

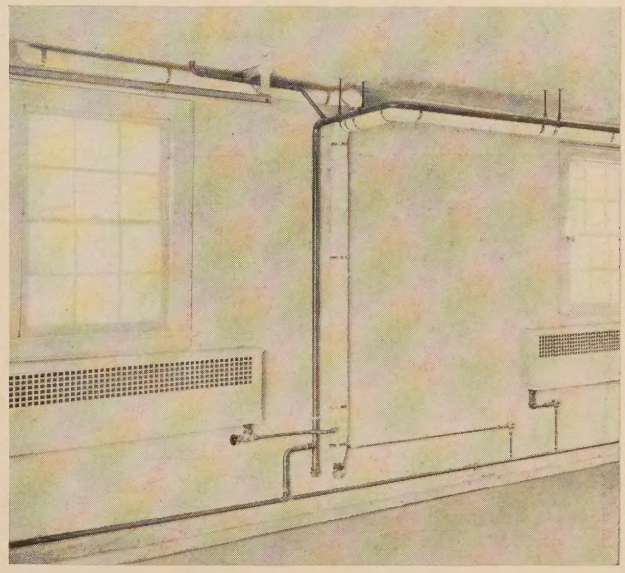
Copper Water Tube uses the same standard pipe coverings as other heating pipes, but in most cases requires one size smaller covering. This is a saving in the cost of the covering.

COSTS

It is impossible to provide any comparative cost figures on installations using black steel, wrought iron and copper tube which would reflect the true comparative costs on any type or size of installation for the reason that the proportion of labor to the material cost varies with the size as well as with prevailing labor rates in various sections of the country.

Copper tube and sweat fittings are competitive in price with other materials. There are many heating installations for which copper tube costs less than wrought iron and only slightly more than steel. There are others, however, because of the differences in designs of heating systems where copper will cost a little more than wrought iron.

The slight extra cost of copper tube, however, is a very small amount in dollars to pay for the advantages of a rustless copper tube and sweat fitting installation.



This garage has been equipped with Chase copper radiators, copper tube and sweat fittings. This means plenty of heat in the coldest weather.

Chase Concealed Radiation was selected for these buildings and many others

Connecticut

Public Buildings

Seaside Hospital	Waterford

Florida

Residences

H. O. Soderlin	Mountain Lake
Dr. J. W. Fitzgerald	St. Petersburg

Kansas

Public Buildings

Stine Funeral Home	Kansas City

Maryland

Residences

Lucien L. Friez	Baltimore

Public Buildings

Loyola High School	Towson
Auditorium Bldg., Spring Grove State Hospital	Catonsville

Massachusetts

Public Buildings

Harvard Congregational Church	Brookline
Worcester War Memorial	Worcester

Missouri

Residences

Waldo Tyler	Kansas City

Public Buildings

City Hall and Fire Headquarters	Richmond

New Jersey

Residences

Charles Felmley	Somerville
L. E. Ogden	Montclair

New Jersey (Cont.)

Public Buildings

Thomas A. Edison Memorial Room	Orange
Trinity Episcopal Church	Red Bank
St. Joseph's Rectory	West Orange
Ivy Street School	Newark

New York

Public Buildings

Nurses Quarters	West Point
Cadet Gymnasium Addition	West Point
Auxiliary Detachment Barracks	West Point
Junior Officers' Quarters	West Point
Cadet Hospital Addition	West Point
U. S. Federal Court House	New York City
Lincoln Savings Bank	Brooklyn
Seton Hospital	Bronx

Pennsylvania

Residences

J. Robert Bazley	Pottsville
E. S. Hann	Springfield

Public Buildings

Augustinian Monastery	Villanova

South Carolina

Residences

A. H. Kohn	Columbia

Public Buildings

Barnwell High School	Barnwell

Washington

Public Buildings

Western State Hospital	Fort Steilacoom

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